



Acquisition Solutions to Future Challenges

**Mr. Bob Shields
ADUSD (Dominant Maneuver)**

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Panel Members

- **Colonel Lee A. Major, USAF, ACC CSAR**
- **RADM Robert E. Besal, USN,
COMOPTEVFOR**
- **MG Hugh L. Cox III, USAF (ret), Consultant**
- **Mr. Bruce Major, Boeing Corporation**
- **Mr. Paul Boucher, USAF HQ PR Division**



WARFIGHTER NEEDS

(per JPRA Commander, Apr 00)

- ✓ • **Evader location #1 recovery problem**
 - Tagging, Tracking, and Locating
- ✓ • **Inexpensive, simple and unique personnel ID beacon**
- ✓ • **Counter-counter CSAR survivability**
 - **Reliable over-the-horizon real time data or voice**
 - **Secure communications**
- ✓ • **Command and control (PRCC and ABCCC) tasks saturated**
 - **Reliable ground-to-air signals (GTAS)**
 - **End-to-end PR mission rehearsal via Joint Exercises**

✓ **PRESS ACTD Addresses Most *Pressing* Warfighter Needs thru
Focused Evader and Aircraft Survivability Technologies**



Proposed PR Battle Laboratory

WARFIGHTING NEED:

“USCINCPAC requires the capability to rapidly locate, identify, and recover isolated personnel under a variety of conditions. **Improvement of this capability requires focused PR RDT&E and technology exploitation.**”

USCINCPAC IPL

PROPOSED SOLUTION:

USCINCFROM has proposed creation of a Personnel Recovery Battle Laboratory at JPRA with a potential mission to:

- Explore, Develop & Demonstrate Advanced PR Warfighting Concepts and Supporting Critical Technologies through:
 - Modeling & Simulation (constructive, virtual, live)
 - Demonstrations (TD, ATD, ACTD)
 - Participation in Experimentation and Exercises

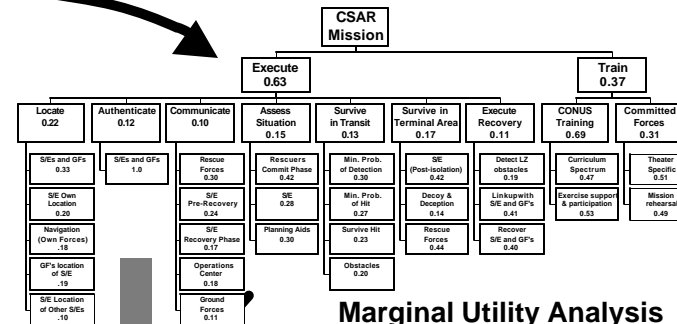


Johns Hopkins APL Value Focused CSAR Model

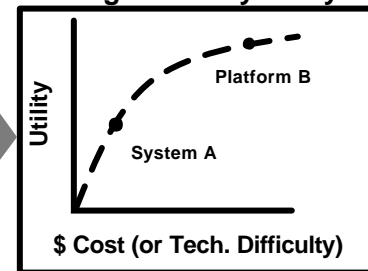


WALEX

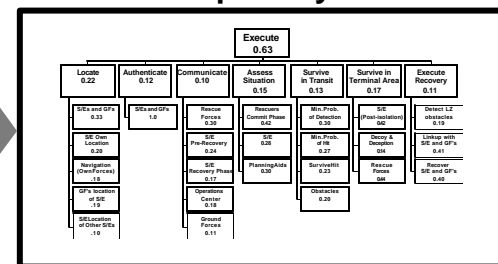
- Warfighter model for PR operational characteristics
 - Utility Analysis
 - Gap Analysis
- Enables Field Test Design



Marginal Utility Analysis



Gap Analysis





PRESS ACTD

Personnel Recovery

Extraction Survivability

aided by

Smart-Sensors

(PRESS)





PRESS

Advanced Concept Technologies



***Integrated
With
Smart Sensor
Web***



Survivor ID & Location

- Tagging / Tracking / Locating (e.g. GPRS)
- Situational Awareness (e.g Smart Sensor Web (SSW) / Cognitive Decision Aids (CDA's))
- Covert Signaling

Extraction Platform Survivability

- Situational Awareness (e.g. CDA / TENCAP / MMW Imaging, SSW)
- Survivability (e.g. CDA / Dazzler/ LIDAR/ Advanced Infrared Counter Measures / MMW Imaging)

**Provides CSAR Task Force with Improved Survivor Loc / ID / SA
and Aircraft Survivability and Reduced Mission Timelines**



Technology Investment Focus Areas

- **Smaller, lighter, uncooled night vision devices**
- **Covert tags**
- **Passive millimeter wave sensors for all weather operations**
- **Light weight, reliable, secure, over-the -horizon communications**
- **Full Spectrum IR Countermeasures**
- **Non lethal technologies (e.g. dazzlers) to eliminate optical shots**
- **Cognitive decision aids for Rescue Team**
- **Improved situational awareness aids for survivor and rescue package using distributed sensors**
- **Integration of UAVs into rescue operations (logistics/sensors/recovery)**
- **Integrated, semi-automated Mission Management**